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Columbus Area Skills Gap Report Final Report

Prepared for the Nebraska Department of Labor

Prepared by
Dr. Eric Thompson, Associate Professor of Economics and Director Bureau of Business Research

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Bureau of Business Research
Department of Economics
College of Business
University of Nebraska—Lincoln
Dr. Eric Thompson, Director
www.bbr.unl.edu

Executive Summary

In the fall of 2017, the Nebraska Departments of Labor and Economic Development led efforts to conduct two surveys regarding the skills of workers and skill needs of employers in Northeast Nebraska, which includes the Columbus, Norfolk and Fremont areas. The two surveys were the *Northeast Nebraska Labor Availability Survey* and the *Northeast Nebraska Survey of Hiring and Training Needs*.

The current study utilizes the results of both surveys as well as secondary data about the Columbus area economy to summarize information about job skills and whether a local skills gap is present. A skills gap is present if it is difficult for a large share of employers to hire in a particular occupation and there is also a persistent gap between the demand for new workers and the number of individuals entering that occupation. Key questions include: In what part of the labor force, if any, is a skills gap present? And, is the skills gap the result of a lack of education and training opportunities, or are other factors at work? The Columbus area is composed of part or all of Boone, Butler, Colfax, Nance, Platte and Polk counties.

Results of the study suggest that the annual flow of individuals into the workforce in the Columbus area will be less than the projected annual needs of businesses due to net job growth and worker replacement. These annual deficits are found throughout the workforce but especially among blue collar and service occupations. Annual deficits are largest in service occupations, especially sales and related workers, food preparation and serving related workers and office and administrative support workers. There are also large deficits for production workers and transportation and material moving workers. Among service and blue collar occupations, these annual deficits are further magnified because a significant share workers are difficult to hire due to a “poor work history” (which typically means frequent job changes) or an inability to pass a background check.

For the more highly skilled occupations with a deficit of workers, potential employees can be prepared through enhanced training, education, internship and (in some cases) apprenticeship opportunities developed through collaboration between employers, training entities and other education institutions. These enhanced learning opportunities should be combined with additional efforts to inform secondary school students, and their parents, about the earnings and other opportunities afforded by these occupations. A list of specific occupations is below, along with the standard occupation code from the U.S. Bureau of Labor Statistics. A detailed analysis for these occupations is provided in the last chapter of this report.

Registered Nurses (SOC CODE 29-1141)

Maintenance and Repair Workers, General (SOC CODE 49-9071)

Welders, Cutters, Solderers and Brazers (SOC CODE 51-4121)

Computer Controlled Machine Tool Operators, Metal and Plastic (SOC CODE 51-4011)

Heavy and Tractor-Trailer Truck Drivers (SOC CODE 53-3032)

Results of the research also support another potential initiative. In particular, many employers indicate that a poor work history or elements of worker’s personal history are a factor in hiring. There appears to be a large group of applicants who have some or all of the relevant occupation-specific skills, but who are still not appealing to employers due to work history or an inability to pass a background check. This raises two key questions: is there a subset of workers in these occupations with potential to change, that is, to become more committed to and a better team member at work? And, how would workers who are able to change be identified? To answer these questions, there should be extensive discussion

with human resources representatives and direct supervisors of workers regarding what practical steps workers can take, if any, over time to change a poor work history into a good work history.

Finally, this research does not find that the level of wages in the Columbus area is a significant challenge for hiring. Specifically, in nearly all occupations the wage requirements of individuals seeking work: 1) represent only a moderate increase over their current wage and 2) are within the prevailing wages found within the Columbus area job market. Evidence of a wage-based skills-gap is found in just two occupation groups, production workers and transportation and material moving workers. Production is a key occupation in the manufacturing industry and transportation and material moving is a key occupation in the logistics industry.

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1. Introduction

During the fall of 2017, the Nebraska Departments of Labor and Economic Development led efforts to survey both households and businesses in Northeast Nebraska. Surveys were designed to examine the skills and work preferences of regional residents and the skill needs and training practices of local employers. These surveys were the *Northeast Nebraska Labor Availability Survey* and the *Northeast Nebraska Survey of Hiring and Training Needs*. The surveyed area included significant portions of Northeast Nebraska including Antelope, Boone, Burt, Butler, Colfax, Cuming, Dodge, Madison, Merrick, Nance, Pierce, Platte, Polk, Saunders, Stanton, Washington and Wayne. Results of the survey can be used to assess the demand for and supply of labor in the Columbus area, which is primarily composed of all or part of Boone, Butler, Colfax, Nance, Platte and Polk counties.

Survey results yield detailed information about the skills of the local workforce and the hiring and training activities of area businesses. These results provide significant insight into whether there are skills gaps present in individual occupations within the Columbus area labor market. Such skills gaps are present if a high share of employers find that it is difficult to hire workers for an occupation and there is a persistent gap between the demand for workers and the number of workers entering the occupation.

Survey results also indicate that skills gaps have potential to limit growth of the Columbus area economy. In particular, a large percent of respondents to the *Northeast Nebraska Survey of Hiring and Training Needs* indicate that labor availability would be an issue if they were asked to consider a local expansion.

Measuring the skills gap is challenging. After all, both businesses and workers are likely to cite difficulties in the labor market with some frequency. For employers, finding and maintaining a productive work force is one of the key challenges of running a business. Likewise, finding and keeping meaningful employment is one of the key career challenges faced by workers. Sure enough, results from the *Northeast Nebraska Labor Availability Survey* indicate that 73.3 percent of potential Columbus area job seekers report that a lack of job opportunities in the local area is an obstacle to finding new employment. At the same time, 81.2 percent of the Columbus employers responding to the *Northeast Nebraska Survey of Hiring and Training Needs* indicate that it is difficult to hire workers.

Do these survey responses mean that a broad-based skills gap is present in the Columbus area economy? Not necessarily. After all, as noted above, we would anticipate a certain level of concern by businesses and people given the rigor of the labor market. A more interesting question is: for which occupations is it most difficult to find a worker, or to find a job? Further, to identify a skills gap in a particular occupation, we also must identify factors which are causing a lingering shortfall in the number of qualified and employable workers available to employers.

There are many potential reasons why a skills gap could develop within an occupation.

Structural change – Structural change refers to changes in technology, customer demand, or international competition which expand the demand for workers in select occupations (and reduce the demand in others). Time may be required for workers to prepare for these emerging occupations, either

through retraining for existing workers or by providing appropriate degree and certificate programs for college, community college and high school students.

Education and Training Programs – Appropriate degree and certificate programs are needed to help workers build skills required in the economy. Local education institutions, many of which are part of the public sector, may struggle to identify needed programs or change program offerings to meet the needs of students and employers. Degree and certificate programs also must be sufficiently rigorous to prepare students to meet employer needs.

Appeal of Occupations – Even when adequate degree and training programs are available, occupations may fail to attract workers at prevailing wages. The combination of wages, benefits and working conditions at a particular occupation may fail to attract workers relative to other work options available within the economy. Such conditions can arise or grow worse as the economy evolves and can also occur because potential workers have inadequate information about the benefits of a particular occupation, or are steered away from an occupation by family members, mentors, or public perception. At the same time, competitive conditions may prevent local employers from raising pay and benefits in order to enhance the appeal of a particular occupation.

Taxes on Middle Class Workers – At prevailing wages, taxes may discourage workers from making investments in their skills through education and training programs. Such monetary investments may not be appealing if too large a share of incremental earnings go to federal, state and local government (either directly through income taxes or indirectly through sales and property taxes). In other words, if the tax burden is too high, workers may not choose to enter skilled occupations where work opportunities are abundant, even when local education and training opportunities are adequate.

Career Destruction – A portion of workers at all skill levels may engage in behavior which reduces their employment potential. These workers may have adequate skill and experience for an occupation, but still not appeal to employers. For example, worker may have a criminal record, or fail to pass a drug test or may have a poor work history, as evidenced by frequent job changes or other indicators of an inability to fit into the workplace. In these cases, a skill gap can arise because worker skills cannot or will not be utilized by employers, rather than a lack of skill.

Social Safety Net – Public benefits such as Medicaid, TANF or Social Security Disability Income may create a significant disincentive for some workers, particularly lower skills workers, to fully participate in the workforce. This may make it very challenging for employers in some occupations to find an adequate workforce.

Net Outmigration – While workers are constantly moving in and out of cities, some cities develop a pattern of sustained net outmigration of workers (the difference between in-migrants and out-migrants) in a wide variety of occupations. Net outmigration may be especially severe in those skilled occupations which are typically filled with younger workers (for example, computer and mathematical occupations), given that younger, educated workers are also the most mobile.

These phenomena can limit the local supply of workers in selected skill groups, leaving employers to note a lack of adequately trained workers, or workers who have a poor work history or wage demands which are too high. This report will utilize data from a variety of sources to identify where a skills gap may be present, including data from the *Northeast Nebraska Labor Availability Survey*, the *Northeast Nebraska Survey of Hiring and Training Needs*, and data on projected job openings, the flow of

graduates and prevailing wages. We began by comparing the annual job openings generated in each occupation, due to net job growth or the replacement of workers, with the potential annual supply of new workers to the occupation, due to local graduates, local residents who are not currently working, and net migration.

We also consider the share of existing employed workers who are open to or pursuing a change in jobs, and compare their wage requirements with prevailing market wages. Such “churn” in the labor market is important to provide employers with the best match of experienced, skilled workers.

2. Supply and Demand for Workers in the Columbus Area by Occupation

The most basic measure of the balance between supply and demand in an occupation is whether there is a gap of between the number of workers being prepared each year for the occupation and the annual need for new workers to enter that occupation. Over time, the annual flow into and out of the occupation will influence how scarce, and difficult to find, workers become. This chapter compares the number of individuals joining an occupation each year after leaving school (either as a graduate or a non-graduate) or through net in-migration with the number of openings in an occupation each year due to job growth or the replacement of workers. This chapter further examines the potential for individuals who are not working to reenter the labor force. This provides an additional source of potential new workers for Columbus area employers.

Lastly, the level of “churn” among the existing workers is examined within each occupation. Churn is the rate at which workers in an occupation move between jobs. It is critical since jobs within a single occupation can differ in terms of requirements for skill and experience. An abundance of new graduates can help fill entry level positions but existing, more experienced workers (i.e. former entry level workers) are needed to fill some openings. Churn is the process which improves the skill match for workers and employers in an occupation. This chapter estimates the percent and number of experienced workers within each occupation who are searching for employment.

A. Supply versus Demand for Workers by Occupation

The first step is to compare the annual net openings and new entrants to each major occupation group within the Columbus area. Net openings in an occupation is a function of net job growth in that occupation and the need to replace workers.

New entrants to an occupation include local individuals who leave school and net migrants to the Columbus area. Individuals who leave school include both graduates and non-graduates. Graduates are high school graduates (and GED completers), community college graduates or college graduates each year. Non-graduates include individuals who drop out of high school, community college, or college. College and community college graduates are assigned to occupations based on their major field of study. High school graduates and non-graduates are assigned to occupations which do not require a college degree based on the number of annual openings. Analysis also adjusts for the share of graduates and non-graduates who are likely to be active participants in the labor force in any given year. This provides the best estimate of how many “workers” are being added in the area economy each year.

Net openings in the Columbus area labor market are based on projections developed by the Office of Labor Market Information (LMI) of the Nebraska Department of Labor. Specifically, the Nebraska LMI generates projections of the demand for additional workers in an occupation based on net job growth and worker replacement, as part of its *Nebraska 2014-2024 Long-Term Occupational & Industry Projections* publication. Projections are made for the State of Nebraska, metropolitan areas and economic development districts. The Columbus area includes counties which are part of the Northeast Economic Development Region. Occupation projections the Northeast region are shared down to the relevant Columbus area counties and summed in order to generate an occupation projection specifically for the Columbus area. Projections are cumulative for 10 years. Annual openings due to net job growth and worker replacement are estimated by taking one-tenth of the 10-year projection. This estimate of annual job openings is shown in Table 2.1 below.

Table 2.1 also contains estimates of the number of local individuals finishing college or community college in a given year with a potential match to each occupation. The degrees of college graduates are estimated based on fields of study at a set of regional universities, in particular the Wayne State College and Midland University. Data on degrees was obtained from the IPEDS data base (the *College Navigator* web portal) maintained by the U.S. Department of Education. There were approximately 810 regional college graduates in 2016-17, the most recent year for which data is available through IPEDS.

Table 2.1: Annual Openings and School Leavers by Occupation Group

Occupation	Annual Net Openings NDOL	Annual School Leavers			
		College and Community College Graduates	Others	Total	Columbus Area Share of Total
Management	85	22	0	22	8
Business and Financial Operations	28	115	0	115	41
Computer and Mathematical	6	39	0	39	14
Architecture and Engineering	9	35	0	35	12
Life, Physical and Social Sciences	11	110	0	110	39
Community and Social Service	17	58	0	58	21
Legal	2	1	0	1	0
Education, Training and Library	65	194	0	194	69
Arts, Design, Entertainment, Sports, and Media	9	60	0	60	21
Healthcare Practitioners and Technical Workers	58	150	0	150	53
Healthcare Support	29	30	40	70	25
Protective Services	11	74	15	89	32
Food Preparation and Serving Related	102	1	141	143	50
Building and Grounds Cleaning and Maintenance	30	0	42	42	15
Personal Care and Services	35	5	48	53	19
Sales and Related	118	0	164	164	58
Office and Administrative Support	112	54	155	210	74
Farming, Fishing, and Forestry	71	20	98	119	42
Construction and Extraction	35	22	49	70	25
Installation, Maintenance and Repair	66	28	91	119	42
Production	151	23	210	233	83
Transportation and Material Movers	100	14	139	153	54

Sources: Nebraska Department of Labor for job openings and IPEDS, U.S. Department of Education for graduates, and BBR calculations

Notes: 1) Others includes high school dropouts, high school graduates (GED completers) or college or community college non-completers. 2) college or community college graduates and others may not sum to total leavers due to rounding

Most of these college graduates are expected to participate in the labor force in any given year, at least while they are in the prime working age of 25 to 64. In particular, data from the National Center for Education Statistics found that in 2014 87.0 percent of 25 to 64 year olds who completed a Bachelor's degree were in the formal labor market. This participation rate for college graduates was combined with the approximately 810 graduates to estimate that 700 graduates would be available to participate in the labor force during a given year.

The number of high school graduates in Northeast Nebraska is estimated based on the number of 2016-2017 high school graduates in Nebraska (23,970), and the share of Nebraska's 15- to 17-year olds who live in Northeast Nebraska counties (9.2%). Data on the share of 15- to 17- year olds comes from the U.S. Bureau of Census. The 15- to 17- age range is used since such estimates are regularly generated by the U.S. Bureau of Census for counties and since some 18 year-olds are already attending college. The annual number of high school graduates in Nebraska is based on 23,395 graduates reported in the *2018 Nebraska Higher Education Progress Report* from the Nebraska's Coordinating Commission on Postsecondary Education and national data from the U.S. Department of Education's *Digest of Education Statistics* indicating that 2.5% of high school-age students attend home school.¹ Multiplying the annual number of Nebraska high school graduates by the percent of state 15- to 17-year olds in the Northeast Nebraska area yields an estimated of 2,210 annual high school graduates (including a GED for home school students) in the potential labor market of Columbus.

How many of those 2,210 high school graduates decide to attend college or community college? According to the *2018 Nebraska Higher Education Progress Report* 64.7% of the students attended a degree-granting institution (either in-state or out-of-state) within one-year of completing high school. That percentage includes individuals who attend a college or a community college. Therefore, the annual flow of individuals who attend a post-secondary institution is approximately 64.7 percent of 2,210, or 1,430. Those 1,430 individuals include persons who are attending 2-year and 4-year colleges. Data provided in the *2016 Nebraska Higher Education Progress Report* suggests that 28.6% of high school graduates attend 2-year public colleges (community colleges) with the remaining 71.4% attend public 4-year colleges or private colleges. Applying this 71.4% rate to the 1,430 graduates attending college yields an estimate that 1,020 Northeast Nebraska high school graduates attend college. The *Nebraska Higher Education Progress Report* indicates that overall graduation rate for individuals who begin at a post-secondary institution in Nebraska is 51.3 percent. This implies 520 potential 4-year college graduates each year who attended high school in Northeast Nebraska. This is less than the 810 graduates from Northeast Nebraska colleges, indicating that the area is a net importer of college students.

Central Community College serves the Columbus region, as well as several other parts of Nebraska. Metropolitan Community College serves Dodge and Washington counties as well as Douglas and Sarpy County. Many of the remaining counties in Northeast Nebraska are served by Northeast Community College. Individuals completing a degree at these three Community Colleges are assigned to the Northeast Nebraska region based on the share of 15-17 year olds the service territory of each college who lives in Northeast Nebraska. Graduates are then assigned to a particular occupation based on the match between their degree program and the occupation. The number of graduates by degree program

¹ National Center for Education Statistics (not dated). *Digest of Education Statistics*, Table 206.10: Number and percentage of homeschooled students ages 5 through 17 with a grade equivalent of kindergarten through 12th grade, by selected child, parent, and household characteristics: 2003, 2007, and 2012. Available at: <https://nces.ed.gov/fastfacts/display.asp?id=91>. Accessed January 21, 2017.

for Central Community College, Northeast Community College and Metropolitan Community College also was obtained from the IPEDS data base (the *College Navigator* web portal) maintained by the U.S. Department of Education. We assume that the graduates in the general fields of study of life, physical and social sciences will ultimately continue onto college. These remaining fields of study contribute to an estimate of 455 associate's degree graduates.

Most of these community college graduates are expected to participate in the labor force in any given year while they are in the prime working age of 25 to 64. In particular, data from the National Center for Education Statistics found that in 2014 77.6 percent of 25 to 64 year olds who completed an Associate's Degree were in the formal labor market.² This compares to 87.0 percent of 25 to 64 year olds who completed a Bachelor's degree. This participation rate for community college graduates was combined with the approximately 455 graduates to estimate that 350 Community College graduates would be available to join the labor force during a given year.

The next task is to estimate the annual number of school leavers in three categories: individuals leaving college before graduating, those finishing high school but not pursuing a two- or four-year college degree and those who drop out of high school. Methods for each estimate are described below.

High School Graduates Not Continuing to College or Community College. Calculations above estimated that there are 2,210 annual high school graduates (including a GED for home school students) in the Northeast Nebraska region. How many of those individuals decided not to attend college or community college? The *2018 Nebraska Higher Education Progress Report* indicated that 64.7 percent of those students attended a degree-granting college or community college (either in-state or out-of-state) within one-year of completing high school. Therefore, the annual flow of individuals who potentially enter the job market as high school graduates is approximately 35.3 percent of 2,210, or 780. A portion of these individuals will participate in the labor force in a given year. The National Center for Education Statistics found that 72.0% of 25 to 64 year olds those who completed high school but did not participate in post-secondary education were in the labor market in 2014. This percentage is applied to 780 to yield 560 additional labor force participants with a high school degree only.

High School Dropouts. The *2018 Nebraska Higher Education Progress Report* indicated that Nebraska has a six-year high school graduation rate of 92 percent. This graduation rate implies that there is one non-completer for each 11.5 high school graduates. This yields an estimate of approximately 190 high school dropouts in Northeast Nebraska in any particular year (although some of these individuals will ultimately obtain a GED). The National Center for Education Statistics report found that 59.9 percent of those who did not complete high school were participating in the labor market in 2014. Applying this rate to the population of 190 indicates that high school non-completers contribute 115 additional labor force participants each year.

College and Community College Non-Completers. As noted earlier, the *2018 Nebraska Higher Education Progress Report* indicates that overall graduation rate for individuals who begin at a post-secondary institution in Nebraska is 51.3 percent implying that 48.7% are non-completers. Applying this non-completion rate to the 64.7 percent of 2,210 high school graduates who attend college yields an estimate that 695 individuals will potentially enter the local labor market each year without a

² Institute for Education Sciences, 2015. "Employment Rates and Unemployment Rates by Educational Attainment," National Center for Education Statistics, U.S. Department of Education (May). Accessed at nces.ed.gov/programs/coe/indicator_cbc.asp

completing a post-secondary degree. Of these, there were 48 graduates of certificate programs for Licensed Practical Nurse and Certified Driver's License programs which were counted among the community college graduates. Adjusting for this, there were an estimated 650 individuals potentially entering the labor market without a degree (or one of those two certificates). The National Center for Education Statistics report indicates that 77.6 percent of these will enter the labor force, implying 520 additional labor force participants each year.³

Altogether, approximately 1,195 high school only completers, high school non-completers, and college non-completers (who did not earn a certificate as a Licensed Practical Nurse or a certificate for a Commercial Driver's License) enter the Northeast Nebraska labor market each year. These individuals are distributed among the occupations which do not *require* a college or community college degree (although workers may have a degree) including: healthcare support; protective services; food preparation and serving-related; building and grounds; personal care and services; sales, office and administrative support; farming, fishing and forestry; construction and extraction; installation, maintenance and repair; production; and transportation and material moving occupations. The 1,195 individuals are allocated to these occupations based on the share of annual openings.

Results in Table 2.1 show that there is a surplus of school leavers in Northeast Nebraska relative to annual openings in the Columbus area in most white collar and all blue collar and service occupations. Across all occupations there are an estimated 1,100 more school leavers in Northeast Nebraska than projected openings in the Columbus area each year.

However, not all Northeast Nebraska school leavers will choose to work in the Columbus area. After all, the Northeast Nebraska region also includes other large employment centers such as Norfolk and Fremont, as well as many other mid-size and small employment centers. Table 2.1 also shows the number of school leavers by occupation which would be available to the Columbus area economy based on its past share of Northeast Nebraska employment (and past share of Central Community College graduates); that is, following historic commuting patterns. In this case, across all occupations there is an estimated annual deficit of 355 school leavers. Deficits are not an issue for most white collar occupations, although there is an annual deficit for managers. However, annual deficits are common for blue collar and service occupations. There is an annual deficit for skilled construction and extraction as well as skilled installation, maintenance and repair workers. The annual deficit of entrants to openings is especially pronounced, at nearly 70 workers per year, for production workers and nearly 50 for transportation and material moving workers. Among service occupations, similar large annual deficits are found for sales workers and food preparation and serving related workers. There also are large annual deficits for office and administrative support occupations.

Further, Table 2.1 does not reflect the flow of workers into and out of the Northeast Nebraska region each year. In particular, Northeast Nebraska area loses 300 *workers* each year due to net immigration to other regions. Estimates of entrants and openings after net migration are provided in Table 2.2. Estimates for migration are based on U.S. Bureau of Census data for total population. Estimates of total population are converted to estimates of migration by workers utilizing employment to population

³ This estimate assumes that individuals who fail to complete a college or community college degree at Northeast Nebraska post-secondary institution will return to the community where they completed high school. Similarly, Northeast Nebraska high school graduates who attended but did not complete post-secondary education in another city would return to the area.

ratios. After factoring in net outmigration, across all occupations there are an estimated 400 fewer school leavers who will work in the Columbus area than projected openings each year.

Table 2.2: Annual Openings and Entrants by Occupation Group, Including Migrants

Occupation	Annual Net Openings NDOL	Annual Entrants			
		Total Finishers	Net Migration	Total	Columbus Area Share of Total
Management	85	22	-35	-13	-5
Business and Financial Operations	28	115	-12	103	37
Computer and Mathematical	6	39	-2	37	13
Architecture and Engineering	9	35	-4	31	11
Life, Physical and Social Sciences	11	110	-5	106	38
Community and Social Service	17	58	-7	51	18
Legal	2	1	-1	0	0
Education, Training and Library	65	194	-27	167	59
Arts, Design, Entertainment, Sports, and Media	9	60	-4	56	20
Healthcare Practitioners and Technical Workers	58	150	-12	138	49
Healthcare Support	29	70	-6	64	23
Protective Services	11	89	-2	87	31
Food Preparation and Serving Related	102	143	-22	121	43
Building and Grounds Cleaning and Maintenance	30	42	-6	36	13
Personal Care and Services	35	53	-7	46	16
Sales and Related	118	164	-42	122	43
Office and Administrative Support	112	210	-40	170	60
Farming, Fishing, and Forestry	71	119	-22	97	34
Construction and Extraction	35	70	-11	59	21
Installation, Maintenance and Repair	66	119	-20	99	35
Production	151	233	-6	227	80
Transportation and Material Movers	100	153	-4	148	53

Sources: Nebraska Depart of Labor for job openings and IPEDS, U.S. Department of Education for graduates, and BBR calculations

Notes: 1) Others includes high school dropouts, high school graduates (GED completers) or college or community college non-completers. 2) college or community college graduates and others may not sum to total leavers due to rounding

Net outmigration also influences the balance between openings and labor market entrants in specific occupation groups. In Table 2.2., estimates of net out-migration by workers are allocated to 5 civilian major occupation categories and for military personnel: 1) management, business, science, arts, 2) service occupations, 3) sales and office occupations, 4) natural resources, construction, and

maintenance, 5) production, transportation and material moving and 6) military specific occupations. The Bureau of Census also has data on the frequency of migration within these occupation categories. After making this adjustment, the underlying pattern continues. Annual deficits are limited for many white collar occupations but are significant for blue collar and service occupations.

Further, there is an additional reasons to be concerned about the available supply of new workers. In particular, an assumption throughout the analysis has been that workers entering the labor market would remain viable to work over their lifetime. Yet, in some cases, workers with appropriate training will diminish their ability to utilize those skills by developing a poor work history or personal issues which discourage employers from hiring them. Table 2.3 show the potential size of this problem. The table lists the percentage of Columbus area business respondents to the *Northeast Nebraska Survey of Hiring and Training Needs* who indicated it was difficult to hire workers in part due to: 1) poor work history and 2) failure to pass a background check. These percentages are significant, especially given the existing gap between openings and annual entrants.

Table 2.3: Total Annual Openings and Entrants and Problems with Work History

	Balance And Problems
Annual Openings Columbus Area	1,150
Annual Entrants Northeast Nebraska	1,950
Annual Entrants Columbus Area	690
Share of Applicants with	
Poor Work History	38.6%
Failed Background Check	14.9%

Sources: IPEDS, U.S. Department of Education for graduates and *Northeast Nebraska Survey of Hiring and Training Needs* and BBR calculations

Potential Supply from Area Residents Who Are Not Currently Employed

While Tables 2.1 through 2.3 addressed the long-term balance between annual openings and entrants in each occupation, it should be noted that there is another potential source to bring new workers into the Columbus area economy over the next few years. That sources is area residents who are not currently employed. These individuals can be drawn back into the work force both by providing job opportunities to unemployed workers and drawing back individuals who are currently out of the labor force, such as retirees or homemakers.

Table 2.4 provides information on the population of the Northeast Nebraska who are not currently employed but are actively seeking work. Data in the table are assembled using responses of individuals to the *Northeast Nebraska Labor Availability Survey*. That survey included a significant number of responses from individuals who indicated that they were unemployed, retired, or were currently homemakers. Respondents provided information both about their previous occupation when they worked in the past and whether they are actively seeking a job at the moment. Approximately 6.4 percent indicated that they would “re-enter the workforce next year if a suitable job is available.” This percentage is much higher than might be expected given the 2% to 3% unemployment rate that prevails in the Columbus area. However, the difference makes sense given that the criteria for being classified as unemployed are not as strict in the *Northeast Nebraska Labor Availability Survey*. In particular, persons do not need to demonstrate that they have been actively searching beyond a minimum level in recent weeks.

This broader 6.4 percent of individuals who are open to rejoining the workforce implies a chance to add a significant number of new workers to the labor force. In particular, there are approximately 44,020 adults age 16 and above in Northeast Nebraska classified as out of the labor force or unemployed, including 14,722 from the Columbus area or expected to commute into the Columbus area. The 6.4 percent figure indicates that there are potentially up to 2,840 additional workers for the Northeast Nebraska economy with 950 specifically for the Columbus area economy. Table 2.4 shows the occupations for which these potential workers might be available, based on the previous occupation. Table 2.4 also shows that, among those surveyed individuals who did not have previous work experience, none reported that there are actively search for a new job.

Table 2.4: Number of Jobless Individuals Actively Searching for a Job by Previous Occupation

Occupation	Northeast Nebraska	Columbus Area
Management	102	34
Business and Financial Operations	162	54
Computer and Mathematical	0	0
Architecture and Engineering	55	19
Life, Physical and Social Sciences	201	67
Community and Social Service	101	34
Legal	0	0
Education, Training and Library	84	28
Arts, Design, Entertainment, Sports, and Media	182	61
Healthcare Practitioners and Technical Workers	216	72
Healthcare Support	351	118
Protective Services	84	28
Food Preparation and Serving Related	150	50
Building and Grounds Cleaning and Maintenance	0	0
Personal Care and Services	0	0
Sales and Related	54	18
Office and Administrative Support	755	253
Farming, Fishing, and Forestry	162	54
Construction and Extraction	0	0
Installation, Maintenance and Repair	0	0
Production	148	50
Transportation and Material Movers	28	9
Never Worked	0	0

Source: *Northeast Nebraska Labor Availability Survey*

As seen in Table 2.4, a significant share of these workers are in production occupations and in agriculture (farming, fishing and forestry), but not in other blue collar occupations. Among white collar

occupations, in Northeast Nebraska there are approximately 100 individuals with management experience, 160 former business and financial operations workers, 220 health care practitioners and technicians, and 350 health care support workers. The largest number of potential reentrants, however, are in office and administrative support occupations. Counts of potential workers available for the Columbus area economy are one-third as large. Results therefore show the potential over the next few years to plug some of the annual gap between openings and entrants through drawing the unemployed, retired workers and homemakers back into the workforce.

B. Job Search among the Currently Employed

Beyond the overall balance of openings and entrants in an occupation, employers have a need for hiring experienced workers. Such positions are often filled by workers who are currently employed. While this can be frustrating for employers who lose workers, this “churn” of workers can be beneficial. In particular, job search by the employed helps experienced workers find the best match between their job and their skills and experience. Finally, workers who are hired away, in turn, leave open positions which create an opportunity, and potentially a better job match, for another worker.

The *Northeast Nebraska Labor Availability Survey* asked employed workers whether they were actively searching for work, along with questions about their experience and occupation. Survey results indicate that 9.6 percent of currently employed workers are actively searching for a job. This implies that approximately 8,360 employed workers are actively searching at any moment in time. Survey results also can be used to generate statistics about the share and number of employed workers in each occupation who are actively searching for a job. These shares are presented in Table 2.5.

Results in Table 2.5 show great variation in the share of employed workers who are actively seeking a new job. In most occupations, between 3% and 18% of workers were actively seeking new work. The highest shares were community and social services (27.3%) and computer and mathematical workers (26.1%). At least 8% of workers were actively seeking a new job among blue collar occupations, with 16.9% of transportation and material moving workers seeking new work. The shares are less consistent for other groups of workers. Among white collar workers, the share searching for work is much higher for computer and mathematical workers than for managers (3.6%) and business and financial operations workers (2.5%). For service occupations, the share of workers searching for work is elevated for health care support occupations (11.6%) and personal care and service workers (10.6%).

The largest number of employed workers who are actively seeking a new job are found in select white collar and service occupations. Among white collar workers, the largest number of workers searching for work were in the education, community and social service and computer and mathematical occupations. Note that farmers and ranchers typically would be classified as farm and ranch managers. Among service workers, there are nearly 1510 office and administrative support workers actively seeking new work in the Northeast Nebraska region. There are a large number of employed blue collar workers actively seeking other work including an estimated 910 transportation and material moving workers and 860 production workers.

As seen in Table 2.5, the total number of employed workers searching for work is more limited if counts are restricted to workers who reside within the Columbus area. However, there are still hundreds of experienced workers available in many occupations.

Table 2.5: Percent and Number of Employed Individuals Who Report Actively Searching for a Job by Occupation

Occupation	Percent Actively Seeking a Job	Number Actively Seeking a Job Northeast Nebraska	Number Actively Seeking a Job Columbus Area
Management	3.6%	400	142
Business and Financial Operations	2.5%	90	32
Computer and Mathematical	26.1%	301	107
Architecture and Engineering	0.0%	0	0
Life, Physical and Social Sciences	16.7%	211	75
Community and Social Service	27.3%	787	279
Legal	6.4%	44	16
Education, Training and Library	9.3%	676	239
Arts, Design, Entertainment, Sports, and Media	3.1%	32	11
Healthcare Practitioners and Technical Workers	3.5%	273	97
Healthcare Support	11.6%	249	88
Protective Services	3.9%	32	11
Food Preparation and Serving Related	7.8%	141	50
Building and Grounds Cleaning and Maintenance	9.4%	109	39
Personal Care and Services	10.6%	281	99
Sales and Related	7.8%	505	179
Office and Administrative Support	11.8%	1,512	535
Farming, Fishing, and Forestry	18.2%	366	130
Construction and Extraction	8.8%	272	96
Installation, Maintenance and Repair	8.2%	313	111
Production	10.5%	858	304
Transportation and Material Movers	16.9%	908	322

Source: *Northeast Nebraska Labor Availability Survey*

As is evident from Table 2.5, there is a significant number of employed workers actively seeking new employment at any moment in time. In fact, the number of employed workers actively searching for a job typically dwarfs the number of annual entrants to each occupation. Table 2.6 compares the estimated number of employed workers actively searching for a work at a given moment (Table 2.5) with the estimated number of annual of entrants, by occupation (Table 2.2) for Northeast Nebraska as a whole. For most occupations, there are more experienced workers actively searching for work than new entrants. This highlights the critical role that job search by experienced workers plays in operation of the labor market.

Table 2.6: Relative Abundance of Currently Employed Job-Seekers by Occupation

Occupation	School Finishers and Net Migrants Northeast Nebraska	Employed But Actively Seeking Work Northeast Nebraska	Employed But Actively Seeking Work Columbus Area
Management	-13	400	142
Business and Financial Operations	103	90	32
Computer and Mathematical	37	301	107
Architecture and Engineering	31	0	0
Life, Physical and Social Sciences	106	211	75
Community and Social Service	51	787	279
Legal	0	44	16
Education, Training and Library	167	676	239
Arts, Design, Entertainment, Sports, and Media	56	32	11
Healthcare Practitioners and Technical Workers	138	273	97
Healthcare Support	64	249	88
Protective Services	87	32	11
Food Preparation and Serving Related	121	141	50
Building and Grounds Cleaning and Maintenance	36	109	39
Personal Care and Services	46	281	99
Sales and Related	122	505	179
Office and Administrative Support	170	1,512	535
Farming, Fishing, and Forestry	97	366	130
Construction and Extraction	59	272	96
Installation, Maintenance and Repair	99	313	111
Production	227	858	304
Transportation and Material Movers	148	908	322

Sources: IPEDS, U.S. Department of Education for graduates and *Northeast Nebraska Labor Availability Survey* and BBR calculations

3. Barriers to Employment and the Local Labor Market

The preceding chapter found that there are a significant group of currently employed workers who are actively looking for a new job. In many occupations, there are also individuals who are not currently working who would be likely to enter the workforce if a suitable job is available. These workers represent an important skill resource for Columbus area employers. Two questions about these potential workers come to mind. First, what challenges or barriers do they foresee in seeking new employment? Second, do these challenges appear to represent a skills gap? These two questions are discussed below.

Survey results reported in the *Northeast Nebraska Labor Availability Survey* show the types of barriers perceived by employed workers who would consider changing jobs. The various criteria fall into categories including working conditions, suitability for employment, work schedule, and compensation. Analysis focuses on the currently employed. Workers who are unemployed, retired or otherwise out of the labor force generally did not respond to the question.

Nearly four in five employed potential job seekers (73.3%) cite a lack of job opportunities in the area as a barrier to changing jobs. This result is perhaps surprising given that projected openings exceed new entrants in the Columbus area for blue collar and service occupations, as reported in Chapter 2. However, the result may simply mean that potential job seekers perceive a lack of appropriate job opportunities, that is, job opportunities which match their skills and their ambitions. This perspective is bolstered by the finding that one quarter of employed potential job seekers (27.3%) report facing a barrier to finding new employment because they are “overqualified.” Other common obstacles perceived by potential job seekers relate to compensation and work hours available from local employers. More than two-thirds (68.3%) cite “inadequate pay offered by local employers” as an obstacle. Inadequate benefits are cited by 57.2 percent of employed potential job seekers. Inadequate hours are cited by 48.4 percent.

Potential seekers also perceive that their own background may limit their potential to find employment. Just over one-quarter (26.5%) cite a lack of training while 22.5 percent cite a lack of education. Besides skill, workers also are concerned about elements of their work history or personal history which create a perceived barrier. Poor credit history is noted by 15.1 percent of employed potential job seekers. Credit history is sometimes used as a screen by potential employers. Work history is cited by 4.8 percent, while a criminal record is cited as a barrier by 3.0 percent of job seekers.

Results also showed that family considerations create a barrier for some workers. In particular, a lack of childcare is noted by 12.0 percent of employed potential job seekers and family commitments are noted by 26.8 percent. Currently employed workers may have found a position which can accommodate their family commitments, a feature which binds them to that position.

Do these obstacles suggest the presence of a skills gap in the Columbus area? Potentially so, if potential job seekers perceive they have inadequate education or training, or have a life history such as a criminal record which will dissuade employers from utilizing their skills, or if employers offer inadequate wages to attract potential job seekers into the new jobs where their skills are needed. Below we examine this evidence of a skills gap in more detail, by comparing worker assessments with those of employers, and comparing wage expectations with market wages in the Columbus area.

Table 3.1 compares employer perceptions of worker skill with the perceptions of potential job seekers from the Columbus area. Employer perceptions come from the report *Northeast Nebraska Survey of Hiring and Training Needs*. In particular, employers were asked whether a series of factors, including occupation skills, make it difficult to hire workers in particular occupations. In Columbus, employer perceptions of a lack of occupation specific skills from whatever source (a lack of education, lack of training) is similar to the perceptions of potential job seekers. Both perceive a significant problem, although employers are 10%-14% more likely to cite this issue.

Table 3.1: Employer and Employed Potential Job Seekers Perceptions of Skill and Training

Issue	Employed Potential Job Seekers	Employers Hiring for Specific Occupations
Percent Indicating a Lack of Training is an Obstacle to Changing Jobs	26.5%	
Percent Indicating a Lack of Education is an Obstacle to Changing Jobs	22.5%	
Percent Indicating that Lack of Occupation Specific Skills Makes It Difficult to Hire		36.1%
Percent Indicating that Lack of Required Licenses/Certificates Makes It Difficult to Hire		9.1%

Sources: *Northeast Nebraska Survey of Hiring and Training Needs* and *Northeast Nebraska Labor Availability Survey*

Table 3.2 looks at other workforce issues which influence employability; in particular, facts or tendencies in the background of workers which may reduce or prohibit employability even if workers have the necessary skills for an occupation. For the Columbus area, the table shows that 14.9% of employers indicate that failed background checks make it difficult to hire. A background check can include a variety of factors including criminal record, substance abuse, or evidence of credit problems. Results from the *Northeast Nebraska Labor Availability Survey* indicate that some potential job seekers also recognize that difficulties with their background which could be a barrier to employment.

Table 3.2: Employer and Employed Potential Job Seekers Perceptions of Worker Background and History

Issue	Employed Potential Job Seekers	Employers Hiring for Specific Occupations
Percent Indicating Criminal Record is an Obstacle to Employment	3.0%	
Percent Indicating Employment History is an Obstacle to Employment	4.8%	
Percent Indicating Poor Credit History is an Obstacle to Employment	15.1%	
Percent Indicating Failed Background Check Makes It Difficult to Hire		14.9%
Percent Indicating that Poor Work History Makes It Difficult to Hire		38.6%

Sources: *Northeast Nebraska Survey of Hiring and Training Needs* and *Northeast Nebraska Labor Availability Survey*

Table 3.2 also shows that 38.6 percent of employers indicate that a poor work history makes it difficult to hire, as reported by Columbus area respondents to the *Northeast Nebraska Survey of Hiring and Training Needs*. Follow-up discussions with employers suggest that poor work history refers to evidence of frequent “job-hopping,” or other indicators that workers do not fit in well at their workplace. Note that there is a large opinion gap between employers and workers with regards to work history. Nearly two in five employers indicate that applicants with a poor work history make it difficult to hire but only 4.8 percent of employed job seekers feel that employment history is an obstacle to finding a new job. Such problems can certainly discourage hiring, even when workers have the required skills. This is the largest difference among any of the issues presented in Tables 3.1 and 3.2.

The final issue pertains to the wages and benefits of potential jobs. This is another area where workers and employers have very different perceptions. As was noted above, a majority of potential job seekers see wages or benefits available from local employers as an obstacle to finding a new job. But, just 29.8 percent of Columbus area employers see wage demands from workers which were “too high” as a cause of difficulty in hiring, according to the results in the report *Northeast Nebraska Survey of Hiring and Training Needs*.

This issue is worthy of further study. Fortunately, a wealth of information is available about local wages, including detailed information about the wage desires of workers from the *Northeast Nebraska Labor Availability Survey* and information about the average wages by occupation in the Columbus area from the U.S. Department of Labor. The information can be used to assess whether job seekers have realistic expectations regarding wages in potential new jobs; in particular, whether job seekers expected large wage increases or wages which are well above the occupation average in the regional economy. While some increase in wages would be expected in order to draw workers to a new job, unrealistic expectations could be a source of a skills gap.

Results in Table 3.3 show current wages and desired wages for employed potential job seekers by education attainment category. This is a comparison between the current wage reported by Columbus area respondents to the *Northeast Nebraska Labor Availability Survey* and the minimum wage which would be required for respondents to improve their job situation, assuming a new position met their other most important job condition requirements. Results are presented for potential job seekers who report hourly wages.

Table 3.3: Current and Desired Wages of Employed Job Seekers by Educational Attainment

Highest Level of Education	Weighted N	Average Current Wages \$	Average Desired Wages \$	Average Wage Differential \$	Percent Wage Differential
Less than High School	28	\$15.38	\$15.95	\$0.57	3.7%
High School Graduate or GED	278	\$17.23	\$18.78	\$1.56	9.0%
Some College	22	\$16.05	\$16.35	\$0.30	1.8%
Vocation or Technical Degree	58	\$17.93	\$20.62	\$2.68	15.0%
Associate's Degree	131	\$19.36	\$20.88	\$1.52	7.8%
Bachelor's Degree	133	\$23.21	\$25.39	\$2.18	9.4%
Master's Degree or Higher	27	\$29.61	\$30.68	\$1.07	3.6%

Source: *Northeast Nebraska Labor Availability Survey*

Results show that most potential job seekers hope for a position which pays \$1.50 to \$2.70 per hour more than their current position, with holders of a Master's degree or higher looking for a \$1.07 increase. Outside of these advanced degree holders, the desired wage increase in percentage terms ranges between 9.0 and 15.0 percent. These percentage differences between current and desired wages are significant but perhaps manageable, that is, in-line with the opening ask of a worker who is being recruited to change positions.

Additional insights can be generated by comparing the current and desired wages of potential job seekers by occupation. This is done in Table 3.4. Results in Table 3.4 show wide variety in desired wage increases, with the largest desired increases in service occupations. Among blue collar workers, the biggest differences are for construction and extraction workers (SOC 47) and production workers (SOC 51). For construction and extraction workers, average desired wages are \$2.30 per hour higher (10.7%). Average desired wages are \$2.01 per hour higher (10.6%) for production workers. The gap between desired and current hourly wages is larger for service occupations. Desired wages are \$4.32 per hour higher (38.5%) for food preparation and serving related workers (SOC 35) and \$3.94 per hour higher for (26.4%) for personal care and services occupations (SOC 39). The gap is smaller for sales as well as office and administrative workers. Among white collar workers, the gap is \$3.70 per hour (13.8%) for architects and engineers (SOC 17), but is substantially lower in other occupations.

The larger wage gaps observed in some cases suggest that wage expectations could be a source of mismatch in the labor market. Before reaching this interpretation, however, it is worthwhile to examine how desired wages compare with the actual wages found in various occupation groups within the Columbus labor market area. The difference between the desired wages in each occupation group and the average hourly wage in that occupation in the Columbus area can be observed in Table 3.5. Current average hourly wage data for the Columbus area are based on U.S. Bureau of Labor Statistics occupation wage data for the Northeast Nebraska Non-Metropolitan Area. The Northeast Nebraska non-metropolitan area includes all Columbus-area counties.

For occupations which typically require a college degree (SOC 11-29), desired wages are often well below the average hourly wage in Northeast area occupations. While this may occur because potential job seekers are on average younger, and therefore, have not yet gained sufficient experience to command the average wage in their occupation, the results suggest that the desired wage increases of college educated potential job seekers are modest and manageable. Even among business and financial operations workers (SOC 15), where wage expectations are above regional averages, the different is manageable, in line with the wage increases workers would hope for when changing jobs.

In most cases, the same cannot be said of occupations which do not typically require a college degree (SOC 31-53). Wage expectations, and even current wages, are often well above regional averages. Wage expectations are above regional averages for all blue collar occupations, especially construction and extraction workers (SOC 47) and production workers (SOC 51). Among service occupations, wage expectations are above regional averages for health care support workers (SOC 31), food preparation and serving related workers (SOC 35), personal care and service workers (SOC 39) and office and administrative support workers (SOC 43).

Table 3.4: Current and Desired Wages of All Potential Job Seekers by Occupation Group

Occupation	Weighted N	Average Current Wages \$	Average Desired Wages \$	Average Wage Differential \$	Percent Wage Differential
Management	16	\$32.07	\$31.36	(\$0.71)	-2.2%
Business and Financial Operations	9	\$30.85	\$32.05	\$1.20	3.9%
Computer and Mathematical	3	\$18.50	\$15.00	(\$3.50)	-18.9%
Architecture and Engineering	11	\$22.59	\$26.29	\$3.70	16.4%
Life, Physical and Social Science	13	\$22.30	\$23.22	\$0.92	4.1%
Community and Social Service	32	\$18.55	\$18.89	\$0.34	1.8%
Legal	4	\$18.35	\$16.73	(\$1.62)	-8.8%
Education, Training, and Library	22	\$14.22	\$15.91	\$1.69	11.9%
Arts, Design, Entertainment, Sports, and Media	3	\$17.84	\$20.00	\$2.16	12.1%
Health Care Practitioners and Technical	86	\$27.05	\$28.53	\$1.48	5.5%
Health Care Support	26	\$15.97	\$17.65	\$1.68	10.5%
Protective Service	8	\$22.99	\$29.40	\$6.40	27.8%
Food Preparation and Serving Related	25	\$11.22	\$15.54	\$4.32	38.5%
Building and Grounds Cleaning and Maintenance	6	\$11.32	\$13.11	\$1.79	15.8%
Personal Care and Service	19	\$14.88	\$18.82	\$3.94	26.4%
Sales and Related	44	\$13.86	\$15.35	\$1.49	10.7%
Office and Administrative Support	129	\$16.59	\$17.92	\$1.33	8.0%
Farming, Fishing and Forestry	18	\$14.88	\$17.57	\$2.69	18.1%
Construction and Extraction	36	\$21.44	\$23.74	\$2.30	10.7%
Installation, Maintenance and Repair	37	\$22.23	\$23.46	\$1.23	5.5%
Production	82	\$18.90	\$20.91	\$2.01	10.6%
Transportation and Material Moving	47	\$19.36	\$19.99	\$0.63	3.2%

Source: *Northeast Nebraska Labor Availability Survey*

Table 3.5: Average Desired and Actual Wages of All Potential Job Seekers by Occupation Group

Occupation	Weighted N	Average Current Wages \$	Average Desired Wages \$	Average Wage Differential \$	Northeast Nebraska Average Wage (\$) (May 2017)
Management	16	\$32.07	\$31.36	(\$0.71)	\$40.22
Business and Financial Operations	9	\$30.85	\$32.05	\$1.20	\$29.30
Computer and Mathematical	3	\$18.50	\$15.00	(\$3.50)	\$28.96
Architecture and Engineering	11	\$22.59	\$26.29	\$3.70	\$31.39
Life, Physical and Social Science	13	\$22.30	\$23.22	\$0.92	\$28.73
Community and Social Service	32	\$18.55	\$18.89	\$0.34	\$19.72
Legal	4	\$18.35	\$16.73	(\$1.62)	\$35.76
Education, Training, and Library	22	\$14.22	\$15.91	\$1.69	\$22.96
Arts, Design, Entertainment, Sports, and Media	3	\$17.84	\$20.00	\$2.16	\$16.63
Health Care Practitioners and Technical	86	\$27.05	\$28.53	\$1.48	\$33.46
Health Care Support	26	\$15.97	\$17.65	\$1.68	\$14.81
Protective Service	8	\$22.99	\$29.40	\$6.40	\$19.97
Food Preparation and Serving Related	25	\$11.22	\$15.54	\$4.32	\$10.90
Building and Grounds Cleaning and Maintenance	6	\$11.32	\$13.11	\$1.79	\$13.16
Personal Care and Service	19	\$14.88	\$18.82	\$3.94	\$11.19
Sales and Related	44	\$13.86	\$15.35	\$1.49	\$16.63
Office and Administrative Support	129	\$16.59	\$17.92	\$1.33	\$15.47
Farming, Fishing and Forestry	18	\$14.88	\$17.57	\$2.69	\$16.64
Construction and Extraction	36	\$21.44	\$23.74	\$2.30	\$18.39
Installation, Maintenance and Repair	37	\$22.23	\$23.46	\$1.23	\$21.60
Production	82	\$18.90	\$20.91	\$2.01	\$17.24
Transportation and Material Moving	47	\$19.36	\$19.99	\$0.63	\$17.33

Source: *Northeast Nebraska Labor Availability Survey* and U.S. Bureau of Labor Statistics

The gap between desired and actual wages in these occupations may make it especially difficult for employers to find needed workers. But, are employers having difficulty? In other words, are these the occupations where employers note that it is most difficult to find workers? This question is addressed in Table 3.6. For each of the 8 occupations, results are presented regarding the percentage of employers who found that it is difficult to hire workers and the percentage of employers who felt that wage demands are “too high.” Employers reported that it was less difficult than average (81.2%) to find workers in the service occupations: health care support (SOC 31), food preparation and serving related (SOC 35), personal care and services (SOC 39) and administrative and office support workers (SOC 43). By contrast, 97.4 percent of employers reported that it is difficult to hire installation, maintenance and repair workers (SOC 49), while 91.7% percent said it is difficult to hire production workers. There also was an above-average share of employers who indicated that it was difficult to hire workers in these occupations due to wage demands which are “too high.” Wage requirements appear to be contributing

to a skill gap among production and installation, maintenance and repair workers but not for the other 6 occupation groups listed in Table 3.6.

Table 3.6: Share of Business Respondents in the Survey of Columbus Area Businesses about Skill and Training Requirements Reporting It Was Difficult to Find Workers, By Selected Occupation

Occupation	Percent of Employers Indicating That Wage Demands for the Occupation Were “Too High” (Average = 29.8%)	Percent of Employers Indicating That It Is “Difficult” To Find Workers in Occupation (Average = 81.2%)
Health Care Support	39.8%	78.9%
Food Preparation and Serving Related	29.7%	74.5%
Personal Care and Services	60.8%	78.1%
Office and Administrative Support	38.6%	74.5%
Construction and Extraction	9.8%	91.7%
Installation, Maintenance and Repair	34.4%	97.4%
Production	38.2%	84.1%
Transportation and Material Moving	14.6%	75.1%

Source: *Northeast Nebraska Survey of Hiring and Training Needs*

In summary, both employers and potential employees perceive some common sources of difficulty in hiring. Both perceive that some potential employees lack occupation-specific skills (lack of education, lack of training) and that a significant share of potential employees have factors in their background (a poor credit history or the inability to pass a background check) which can make hiring difficult, even when workers have appropriate skills for a job. In contrast to potential employees, employers also note that applicants with a “poor work history” make hiring difficult. Some workers may not be aware that “job hopping” or other evidence of an inability to get along at work is harming their employment potential. Finally, there is only limited evidence that the desire for higher wages is a significant source of the skills gap in the Columbus area. The strongest evidence of such a wage-based skills-gap is found among production and installation, maintenance and repair occupations.

4. Detailed Evaluation of Select Occupations

This section compares information from the employer and household surveys and secondary data from government sources to develop a profile of skill supply and demand in specific occupations. Occupations were selected that have been identified by the Nebraska Department of Labor as a high wage occupation in the region, especially when evidence of a skills gap was identified in Chapters 2 and 3. Analysis should reveal the nature of the skills gap, if any, found in different occupations. A detailed analysis is provided for the following occupations:

- Heavy and Tractor-Trailer Truck Drivers (SOC CODE 53-3032)
- Welders, Cutters, Solderers and Brazers (SOC CODES 51-4121)
- Registered Nurses (SOC CODE 29-1141)
- Maintenance and Repair Workers, General (SOC CODE 49-9071)

A. Heavy and Tractor-Trailer Truck Drivers (SOC CODE 53-3032)

Heavy and tractor-trailer truck drivers transport goods from one place to another, often through long haul routes. This is considered a H3 occupation by the Nebraska Department of Labor, meaning it offers higher wage earnings opportunities. Heavy truck drivers also are a primary occupation within the transportation and material moving occupation group. There was a significant annual deficit between the number of job openings and potential entrants into the transportation and material moving occupation in the Columbus area. The mean hourly wage in the Columbus area in 2017 is \$20.46. Finding workers is challenging in this occupation. As seen in Table 4.1, 93.5 percent of businesses reported that it is difficult to hire workers heavy and tractor-trailer truck drivers. That is a higher percentage of difficulty than is found for occupations overall.

Table 4.1 also shows the reasons for difficulty in hiring according to Columbus area employers who hire heavy and tractor-trailer truck drivers. More than three in five of these employers (61.6%) report that hiring drivers is challenging due to applicants who lack work experience. Just 17.3% of employers are willing to hire truck drivers without experience and 44.7% require at least one year of driving experience. Unsurprisingly, there is also a challenge for workers who lack required licenses and certificates. Just under two-thirds (63.3%) of Columbus area businesses indicate that there are not enough applicants for jobs in this occupation.

Data on annual openings and entrants for the heavy and tractor-trailer truck driver occupation also suggest challenges with the number of applications. As seen in Table 4.1, there are an estimated 32 new openings in this occupation each year in the Columbus area due to growth in employment and the replacement of workers. At the same time, there are 18 graduates from the Bus and Truck Driver certificate program from an area community college each year, with 6 expected to enter the occupation in the Columbus area. Further, the *Northeast Nebraska Labor Availability Survey* did not identify any former truck drivers in the Columbus area who report an interest in re-entering the workforce. There is a need to attract more workers to seek truck driving training and certificates. There is also a need to develop incentives for employers to hire less experienced truck drivers, when feasible, given widespread concern about the experience level of drivers in the region.

Table 4.1**Key Findings for the Heavy and Tractor-Trailer Truck Drivers Occupation**

Occupation	Heavy and Tractor-Trailer Truck Drivers (SOC 53-3032)	All Occupations
Percent Indicating It is Difficult to Hire	93.5%	81.2%
Reasons for Difficulty in Hiring		
Lack of Experience	61.6%	39.1%
Poor Work History	34.8%	38.6%
Lack of Occupation-Specific Skills	15.0%	36.1%
Failed Background Check	18.0%	14.9%
Wage Demands Too High	8.0%	29.8%
Lack of Required Licenses/Certificates	31.8%	9.1%
Language Barriers	6.9%	8.5%
Not Enough Applicants	63.3%	78.6%
Availability for Shifts Required	18.0%	28.9%
Lack of Required Education	0.0%	8.3%
Overqualified	0.0%	2.8%
Citizenship/Work Authorization	0.0%	5.0%
Other	0.0%	3.2%
Average Annual Openings	32	
Certificate Graduates – Bus and Truck Driver		
Community College	18	
Allocated to Columbus Area	6	
Seeking to Re-Enter the Workforce – In Occupation		
Northeast Nebraska	0	
Allocated to Columbus Area	0	
Minimum Experience Requirement		
No experience required	17.3%	54.1%
Experience required but less than 1 year	38.0%	24.3%
1 year or more experience required	44.7%	21.6%

Sources: *Northeast Nebraska Survey of Hiring and Training Needs*, *Northeast Nebraska Labor Availability Survey*, *IPEDS*, United States Department of Education and Labor Market Information, Nebraska Department of Labor

B. Welders, Cutters, Solderers and Brazers (SOC CODE 51-4121)

Analysis in Chapters 2 and 3 revealed evidence of a skills gap within production occupations in the Columbus area. There was a significant annual deficit between the number of annual job openings and potential entrants into production occupations. There was also evidence of a skills based wage gap. Analysis of employment patterns and the key occupations identified by respondents to the *Northeast Nebraska Survey of Hiring and Training Needs* indicates that welders, cutters, solderers and brazers is a common skilled production occupation in the Columbus area. It is also considered a H3 occupation by the Nebraska Department of Labor, meaning it offers higher wage earnings opportunities.

Welders, cutters, solderers and brazers use hand welding, flame cutting, hand soldering or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metals products. The mean hourly wage for the occupation in the Columbus area in 2017 is \$18.03. Survey results indicate that it is challenging to find workers in this occupation. As seen in Table 4.2, 100.0% of businesses reported that it is difficult to hire workers.

Table 4.2 also shows reasons for difficulty according to Columbus area businesses who hire welders, cutters, solderers and brazers. Ninety percent of Columbus area businesses indicate that there are not enough applicants for jobs in this occupation. Hiring welders, cutters and the like also is challenging due to applicants who lack work experience. One hundred percent of businesses require applicants to have experience and 41 percent require at least one year of experience. Further, businesses which hire welders, cutters, solders and brazers are 12 percent more likely to report that applicants make wage demands which are “too high.” Fourteen percent more employers report it is difficult to hire because applicants have a poor work history. About one in five businesses indicate that language barriers make it more difficult to hire for this occupation.

Survey results on the difficulty of hiring, however, are not fully supported by data on annual openings and entrants for the welders, cutters, solderers and brazers. As seen in Table 4.2, there are an estimated 10 new openings in this occupation each year in the Columbus area due to growth in employment and the replacement of workers. But, twenty-three students graduate each year from the Welding Technology/Welder Associate’s degree program at area community colleges, with about 8 expected to enter the occupation in the Columbus area. The expected annual number of openings and entrants is therefore similar. Further, the survey of Northeast Nebraska households suggests that there are 50 former welders, cutters, solderers and brazers in the Columbus area who have an interest in re-entering the workforce.

These findings suggest a need to create a more experienced, and somewhat larger, welding workforce. More individuals should be encouraged to study welding. Employers also may need hire less experienced welders. The state of Nebraska or local agencies could participate through temporary wage subsidies for industrial businesses which hire less experienced welders. Workers in this occupation also should avoid behaviors which lead to a poor work history.

Table 4.2**Key Findings for the Welders, Cutters, Solderers and Brazers Occupation**

Occupation	Welders, Cutters, Solderers and Brazers (SOC 51-4121)	All Occupations
Percent Indicating It is Difficult to Hire	100.0%	81.2%
Reasons for Difficulty in Hiring		
Lack of Experience	50.8%	39.1%
Poor Work History	50.1%	38.6%
Lack of Occupation-Specific Skills	41.7%	36.1%
Failed Background Check	18.3%	14.9%
Wage Demands Too High	41.7%	29.8%
Lack of Required Licenses/Certificates	0.0%	9.1%
Language Barriers	19.7%	8.5%
Not Enough Applicants	90.2%	78.6%
Availability for Shifts Required	28.1%	28.9%
Lack of Required Education	12.1%	8.3%
Overqualified	0.0%	2.8%
Citizenship/Work Authorization	0.0%	5.0%
Other	0.0%	3.2%
Average Annual Openings	7	
Graduates – Welding Technology		
Community College	23	
Allocated to Columbus Area	8	
Seeking to Re-Enter the Workforce – In Occupation		
Northeast Nebraska	148	
Allocated to Columbus Area	50	
Minimum Experience Requirement		
No experience required	0.0%	54.1%
Experience required but less than 1 year	59.0%	24.3%
1 year or more experience required	41.0%	21.6%

Sources: *Northeast Nebraska Survey of Hiring and Training Needs*, *Northeast Nebraska Labor Availability Survey*, *IPEDS*, United States Department of Education and Labor Market Information, Nebraska Department of Labor

C. Maintenance and Repair Workers, General (SOC CODE 49-9071)

Maintenance and Repair Workers, General have at least two skills in the installation, maintenance or repair of machines and mechanical equipment. Maintenance and repair workers also are one of the primary occupations within the installation, maintenance and repair occupation group. The mean hourly wage for the occupation in the Columbus area in 2017 is \$18.63. As seen in Table 4.3, 100.0 percent of businesses reported that it is difficult to hire workers in this occupation.

Table 4.3 also shows the reasons for difficulty in hiring according to Columbus area businesses. Hiring general maintenance and repair workers is primarily challenging due to applicants who lack experience and occupation-specific skills. One hundred percent indicate that hiring is difficult because applicants lack experience, with 85.4 percent of employers requiring applicants to have at least 1 year of experience. One hundred percent of employers also indicate that applicants lack occupation-specific skills. There is also an elevated share of employers who indicated that applicants have a poor work history and make wage demands which are too high.

Data on annual openings and entrants for general maintenance and repair workers also suggest an imbalance between opening and applicants. As seen in Table 4.3, there are 14 projected openings in this occupation each year in the Columbus area. At the same time, 5 students graduate from the Industrial Mechanics and Maintenance Technology Associate's Degree program at Central Community College each year. Only a portion of Central's service territory is located in the Columbus area and just 1 would be expected to enter the occupation in Columbus each year. Further, our survey of Northeast Nebraska households indicates that there are no former general maintenance and repair workers from the Columbus area who report an interest in re-entering the workforce. These findings suggest a need to encourage more individuals to seek training in industrial mechanics and maintenance technology each year. Employer also may need to hire less experienced workers. The state of Nebraska or local agencies could potentially participate through temporary wage subsidies for industrial businesses which hire less experienced maintenance and repair workers.

Table 4.3**Key Findings for the Maintenance and Repair Workers, General Occupation**

Occupation	Maintenance and Repair Workers, General (SOC 49-9071)	All Occupations
Percent Indicating It is Difficult to Hire	100.0%	81.2%
Reasons for Difficulty in Hiring		
Lack of Experience	100.0%	39.1%
Poor Work History	20.3%	38.6%
Lack of Occupation-Specific Skills	100.0%	36.1%
Failed Background Check	41.4%	14.9%
Wage Demands Too High	41.4%	29.8%
Lack of Required Licenses/Certificates	0.0%	9.1%
Language Barriers	0.0%	8.5%
Not Enough Applicants	79.7%	78.6%
Availability for Shifts Required	56.0%	28.9%
Lack of Required Education	0.0%	8.3%
Overqualified	0.0%	2.8%
Citizenship/Work Authorization	0.0%	5.0%
Other	0.0%	3.2%
Average Annual Openings	14	
Graduates – – Industrial Mechanics and Maintenance Technology		
Central Community College	5	
Allocated to Columbus Area	1	
Seeking to Re-Enter the Workforce – In Occupation		
Northeast Nebraska	0	
Allocate to Columbus Area	0	
Minimum Experience Requirement		
No experience required	0.0%	54.1%
Experience required but less than 1 year	14.6%	24.3%
1 year or more experience required	85.4%	21.6%

Sources: *Northeast Nebraska Survey of Hiring and Training Needs*, *Northeast Nebraska Labor Availability Survey*, *IPEDS*, United States Department of Education and Labor Market Information, Nebraska Department of Labor

D. Registered Nurses (29-1141)

Registered nurses assess patient health problems and needs, develop and implement nursing care plans, maintain medical records, administer nursing care to ill, injured, convalescent or disabled patients, advise patients on health maintenance and disease prevention, and provide case management.

Registered nursing is considered an H3 occupation by the Nebraska Department of Labor, meaning it offers higher wage opportunities. Registered nurses also are a primary occupation within the health care practitioners and technical workers occupation group. The mean hourly wage in the Columbus area is \$27.73. Finding workers is challenging in this occupation. As seen in Table 4.4, 100.0 percent of Columbus area businesses report that it is difficult to hire registered nurses.

Table 4.4 also shows the reasons for difficulty in hiring according to Columbus area employers who hire registered nurses. Availability is the primary challenge. One hundred percent of employers indicate that it is difficult to hire because there are not enough applicants for registered nurse positions while 62.5 percent indicate challenges with finding applicants who can work required shifts. There are few if any problems with the quality of workers, with no employers reporting that it is difficult to hire because applicants have a poor work history. Only 12.5 percent of employers report that applicants for registered nurse positions lack work experience, and 50 percent of employers indicate they are willing to hire registered nurses without employment experience. Twenty-five percent of business do report that hiring is difficult because applicants lack required licenses and certificates.

Data on annual openings and entrants for the registered nurse occupation suggest that the challenges are not entirely due to a lack of graduates. As seen in Table 4.4, there are an estimated 19 new job openings each year for registered nurses in the Columbus area due to growth in employment and the replacement of workers. There are 37 graduates with an Associate's Degree in registered nursing from area community colleges, and 13 would be expected to enter the occupation in the Columbus area. There also are baccalaureate graduates from nursing from Midland University, with 38 graduates during the 2016-2017 academic year. Together these annual graduates should be sufficient to meet the need for new job openings in the Columbus area, especially since there are an estimated 36 Columbus area residents with experience as a registered nurse who would consider rejoining the labor force if an appropriate opportunity was available. The challenge may be with local employers competing for graduates with job opportunities in larger cities in Nebraska and the wider region. Employers in the Columbus area may consider how to increase the wages, improve working condition and enhance the overall appeal of working as a registered nurse. In addition, more students should be encouraged to pursue degrees in nursing either at the community college or college level.

Table 4.4
Key Findings for the Registered Nurses Occupation

Occupation	Registered Nurses (SOC 29-1141)	All Occupations
Percent Indicating It is Difficult to Hire	100.0%	81.2%
Reasons for Difficulty in Hiring		
Lack of Experience	12.5%	39.1%
Poor Work History	0.0%	38.6%
Lack of Occupation-Specific Skills	0.0%	36.1%
Failed Background Check	0.0%	14.9%
Wage Demands Too High	25.0%	29.8%
Lack of Required Licenses/Certificates	25.0%	9.1%
Language Barriers	0.0%	8.5%
Not Enough Applicants	100.0%	78.6%
Availability for Shifts Required	62.5%	28.9%
Lack of Required Education	0.0%	8.3%
Overqualified	0.0%	2.8%
Citizenship/Work Authorization	0.0%	5.0%
Other	0.0%	3.2%
Average Annual Openings	19	
Graduates – Registered Nursing		
Community College	37	
Allocated to Columbus Area	13	
Seeking to Re-Enter the Workforce – In Occupation		
Northeast Nebraska	108	
Allocate to Columbus Area	36	
Minimum Experience Requirement		
No experience required	50.0%	54.1%
Experience required but less than 1 year	25.0%	24.3%
1 year or more experience required	25.0%	21.6%

Sources: *Northeast Nebraska Survey of Hiring and Training Needs*, *Northeast Nebraska Labor Availability Survey*, *IPEDS*, United States Department of Education and Labor Market Information, Nebraska Department of Labor

E. Computer-Controlled Machine Tool Operators, Metal and Plastic (SOC 51-4011)

Analysis in Chapters 2 and 3 revealed evidence of a skills gap within production occupations in the Columbus area. There was a significant annual deficit between the number of job openings and annual and potential entrants into production occupations. Analysis of employment patterns and the key occupations identified by respondents to the *Northeast Nebraska Survey of Hiring and Training Needs* indicates that computer-controlled machine tool operators, metal and plastic (SOC CODE 51-4011) is a common, skilled production occupation in the Columbus area. It is considered an H3 occupation by the Nebraska Department of Labor, meaning it offers higher wage opportunities.

Computer-controlled machine tool operators utilize machine tools or robots to perform one or more machine functions on metal or plastic work pieces. The mean hourly wage for the occupation in Columbus in 2017 is \$20.32. As seen in Table 4.5, 79.4 percent of businesses in the Columbus area which hire computer-controlled machine tool operators report that it is difficult to hire workers in this occupation.

Table 4.5 also shows the reasons for difficulty in hiring. One hundred percent of Columbus area businesses indicate that there are not enough applicants for jobs in this occupation while 48.2 percent indicate there are not enough applicants willing to work required shifts. Hiring is especially challenging due to the experience and education of applicants, with three-quarters of employers reporting that applicants lack experience or occupation-specific skills. All employers require applicants to have work experience, including 41.2 percent of employers which require at least 1 year of experience. Nearly 50 percent of businesses report that hiring is difficult because of applicants who fail background checks.

Data on annual openings and entrants for computer-controlled machine tool operators do not suggest a significant shortfall in the number of applicants. As seen in Table 4.5, there are an estimated 2 openings in this occupation each year in the Columbus area due to net job growth and the replacement of workers. There are 7 graduates each year from a Machine Tool Technology Associate's Degree program at area community colleges, with 2 expected to enter the occupation in the Columbus area. The number of job openings and entrants therefore is in balance. The survey of Northeast Nebraska households did not identify any former computer-controlled machine tool operators who report an interest in re-entering the workforce.

These findings suggest a need to increase experience among computer-controlled machine tool operators. Businesses should be incentivized to hire inexperienced workers. The state of Nebraska or local agencies could potentially participate through temporary wage subsidies for manufacturers which hire newly graduated computer-controlled machine tool operators. Workers also must take care to avoid behaviors which lead to failing a background check.

Table 4.5**Key Findings for Computer-Controlled Machine Tool Operators, Metal and Plastic Occupation**

Occupation	Computer-Controlled Machine Tool Operators, Metal and Plastic (SOC 51-4011)	
	All Occupations	
Percent Indicating It is Difficult to Hire	79.4%	81.2%
Reasons for Difficulty in Hiring		
Lack of Experience	74.1%	39.1%
Poor Work History	48.2%	38.6%
Lack of Occupation-Specific Skills	77.7%	36.1%
Failed Background Check	48.2%	14.9%
Wage Demands Too High	25.9%	29.8%
Lack of Required Licenses/Certificates	0.0%	9.1%
Language Barriers	0.0%	8.5%
Not Enough Applicants	100.0%	78.6%
Availability for Shifts Required	48.2%	28.9%
Lack of Required Education	0.0%	8.3%
Overqualified	0.0%	2.8%
Citizenship/Work Authorization	0.0%	5.0%
Other	0.0%	3.2%
Average Annual Openings	2	
Graduates – Machine Tool Technology		
Community College	7	
Allocated to Columbus Area	2	
Seeking to Re-Enter the Workforce – In Occupation		
Northeast Nebraska	0	
Allocated to Columbus Area	0	
Minimum Experience Requirement		
No experience required	0.0%	54.1%
Experience required but less than 1 year	58.8%	24.3%
1 year or more experience required	41.2%	21.6%

Sources: Northeast *Nebraska Survey of Hiring and Training Needs*, Northeast *Nebraska Labor Availability Survey*, *IPEDS*, United States Department of Education and Labor Market Information, Nebraska Department of Labor